

Huaijin Wang

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RESEARCH INTERESTS

- Approximation properties and applications of Müntz polynomials
- Spectral methods for solving differential equations
- High-order approximations to singular solutions in differential equations

EDUCATION

Xiamen University , Xiamen, China Ph.D. student in Applied Mathematics	Sep. 2024 — present
Xiamen University , Xiamen, China M.Sc. in Applied Mathematics	Sep. 2020 — Jul. 2023
Northwest University , Xi'an, China B.Sc. in Mathematics	Sep. 2016 — Jul. 2020

EXPERIENCE

Yealink Network Technologies Co., Ltd. <i>Engineer of audio algorithm research and developing</i>	Xiamen, China Jul. 2023 — Jul. 2024
<ul style="list-style-type: none">• Research and application of high performance frequency shifting algorithm.• Research and application of notch filter and howling detection algorithm.• Development of UDP packets sending and receiving debugging tool based on MATLAB.	
Huawei Technologies Co., Ltd. <i>Engineer of radio frequency (Internship)</i>	Shanghai, China Jun. 2022 — Sep. 2022
<ul style="list-style-type: none">• Application of fractional Fourier transform in wireless sensing.• The engineering development of singular value decomposition algorithm (SVD).	

SELECTED COURSES

Master's Courses [Transcript]	Bachelor's Courses [Transcript] (Or English Version)
<ul style="list-style-type: none">• Numerical Linear Algebra• Numerical Optimization• Numerical Analysis to Partial Differential Equations• Finite Element Method and Applications• Advanced Numerical Analysis• Others:<ul style="list-style-type: none">– Classic Machine Learning– Numerical Methods and Theory of Partial Differential Equations (Tianyuan Center in Southwest China)– Signals and Systems– Digital Signal Processing	<ul style="list-style-type: none">• Analysis:<ul style="list-style-type: none">– Mathematical Analysis, Complex Analysis– Real Analysis, Functional Analysis, Ordinary and Partial Differential Equations– Harmonic Analysis, Nonlinear Functional Analysis, Soblev Space• Algebra:<ul style="list-style-type: none">– Advanced (Linear) Algebra, Abstract Algebra, Number Theory, Commutative Algebra• Geometry:<ul style="list-style-type: none">– Analytic Geometry, Differential Geometry, Topology, Differential Manifold• Others: Numerical Analysis, Physics, Probability Theory, Computer Graphics, etc.

PUBLICATIONS

[1] Wang H, Xu C. On recurrence formulae of Müntz polynomials and applications[J]. **Applied Mathematics and Computation**, 2025. <https://doi.org/10.1016/j.amc.2024.129166>

[2] Huaijin Wang, Chuanju Xu: On Weighted Generalized Gauss Quadratures for Müntz Systems. arXiv preprint (2023), In-Progress.

SKILLS

- **Programming:** MATLAB, Python (Numpy, Pandas, Scikit-Learn), C/C++, Linux, Web Development (Vue, HTML5, JavaScript, CSS).
- **Software:** MATLAB, Audition, Lightroom